# ENVIRONMENTAL ASSESSMENT
# COVER SHEET

**Project Title:** Cecil R. – Jackson Exploration Plan of Operation

**Project Type:** Metallic mineral exploration

**Project Proponent:** CR Briggs Corporation
Eight Miles South Of Ballarat on Wingate Road
P.O. Box 668
Trona, CA 93562
(760) 372-4233

**Project Location:** Portions of sections 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, and 36, T22S, R 44E, Mount Diablo Meridian Inyo County, CA. East of Wingate road on the western flank of the Panamint Mountains, two to five miles south of Ballarat, CA.

**EA Number:** CA – 650 – 2002 – 082

**Case File Number:** CACA 42806

**Date:** 10-4 2002

**Summary:** This document complies with the NEPA requirements for an Environmental Assessment of the proposed Cecil R – Jackson Exploration Plan of Operations. It examines the impacts of the Proposed Action, a helicopter supported drilling alternative, and the No Action alternative.

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# 1. Introduction

The National Environmental Policy Act (NEPA) requires that the Bureau of Land Management (BLM) consider and document environmental impacts prior to making certain decisions. CR Briggs Corporation ("Project Proponent") has submitted a plan of operations for exploration drilling on BLM administered lands; the Cecil R. – Jackson Exploration Plan of Operations ("Project" or "Proposed Action"). BLM must review this application and decide whether or not to grant approval to the applicant. The decision whether or not to approve the plan of operations is subject to NEPA review. This Environmental Assessment ("EA") satisfies the review requirements.

This document analyzes the environmental impacts and mitigation of impacts associated with the Proposed Project. It also determines whether significant impacts would result if the Proposed Action or alternatives were implemented. The BLM originally published and EA on this project on June 10, 2002. Because of the many public comments received on the original EA, this revised EA is being circulated for public comment. Public comments on the original EA are found in Appendix 1, Public Comments.

## 1.1 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to develop data to determine the quantity, concentration, and geometry of precious metals deposits that may occur in the proposed exploration area. The need for the Proposed Action is to determine whether the subject lands contain valuable minerals sufficient to support development of a mine.

The BLM's objective in this action is to comply with federal laws, regulations, and policies related to development of mineral resources on public lands, including all applicable environmental requirements. The BLM manages the subject lands under multiple use policy, allowing access to mineral rights, subject to Title 43 CFR 3809 requirements. The Proposed Action is initiated by the Project Proponent's filing of a Plan of Operations. The BLM must respond to that application; this document is part of the required response.

## 1.2 Conformance with Land Use Plan

This Proposed Action is subject to the California Desert Conservation Area Plan ("CDCA Plan") approved in 1980 and last amended in 1993. The Proposed Action has been reviewed to determine whether it conforms with the terms and conditions of the land use plan as required by 43 CFR 1610.5 – 3. The proposed mineral exploration is consistent with the CDCA Plan which recognizes: (1) "The widespread availability of land and access is a crucial factor in maintaining the outstanding productive potential of Geology-Energy-Mineral resources." (CDCA Plan, 1980, p 95), (2) "All mineral exploration and mining operations on public land under BLM surface administration in Multiple Use Class C, L, M and I will be subject to the Bureau's surface mining regulations under 43 CFR 3802 and 43 CFR 3809." And (3) "Under the regulations at 43 CFR 3809, surface disturbing operations will be regulated to prevent undue degradation of the public lands and to provide adequate environmental safeguards…"(CDCA Plan, 1980, p 101).

## 1.3 Relationship to Statutes, Regulations, or Other Plans

**1.3.1 Federal Land Policy and Management Act.** The Federal Land Policy and Management Act (FLPMA) guides the BLM in administering federal lands under its control. Under FLPMA (Title VI 43 USC 1781 Sec. 601 (a)) The Congress finds that:

(1) the California Desert contains historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population;

(2) the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed;

(3) the California desert environment and its resources, including certain rare and endangered species of wildlife, plants, and fishes, and numerous archeological and historic sites, are seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use, which are certain to intensify because of the rapidly growing population of southern California;

(4) the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations, and to provide present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road vehicles;

(5) the Secretary has initiated a comprehensive planning process and established an interim management program for the public lands in the California desert; and

(6) to insure further study of the relationship of man and the California desert environment, preserve the unique and irreplaceable resources, including archeological values, and conserve the use of the economic resources of the California desert, the public must be provided an opportunity to participate in such planning and management, and additional management authority must be provided to the Secretary to facilitate effective implementation of such planning and management.

**1.3.2 Federal Environmental Review.** The National Environmental Policy Act of 1969 (NEPA), as amended (PL 91-190, 42 USC 4321 et seq.) is the national charter for protection of the environment. The Act establishes policy, sets goals, and provides means for carrying out the policy. It is the law under which Environmental Impact Statements and Environmental Assessments (EA's) are prepared. The following excerpts are taken from the regulations at 40 CFR Part 1500 (NEPA).

1500.2 Policy

(b) Implement procedures to make the NEPA process more useful to decisionmakers and the public; to reduce paperwork and the accumulation of extraneous background data; and to emphasize real environmental issues and alternatives. Environmental "documents" shall be

concise, clear, and to the point, and shall be supported by evidence that agencies have made the necessary environmental analyses.

1500.4 Reducing Paperwork
(q) Using a finding of no significant impact when an action not otherwise excluded will not have a significant effect on the human environment and is therefore exempt from requirements to prepare an environmental impact statement.

1508.9 Environmental Assessment
(a) Means a concise public document for which a Federal agency is responsible that serves to:

(1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
(2) Aid an agency's compliance with the Act when no environmental impact statement is necessary.
(3) Facilitate preparation of a statement when one is necessary.

(b) Shall include brief discussions of the need for the proposal, of alternatives as required by sec. 102(2)(E), of the environmental impacts of the Proposed Action and alternatives, and a listing of agencies and persons consulted.

**1.3.3 Federal Regulations for Surface Management of Mining.** The regulations at 43 CFR 3809 ("3809 Regulations) were promulgated to implement provisions of the Federal Land Policy and Management Act of 1976 for the surface management of mining. The purpose of the 3809 Regulations is to prevent undue or unnecessary degradation of the Federal lands due to mineral activities. Some of the pertinent environmental standards which would apply to exploration are listed below:

- Access routes shall be planned for only the minimum width needed for operations and shall follow natural contours, where practicable, to minimize cut and fill. When the construction of access routes involves slopes which require cuts on the inside edge in excess of three feet, the operator may be required to consult with the authorized officer concerning the most appropriate location of the access route prior to commencing operations.
- Reclamation shall include but shall not be limited to:
- Saving of topsoil for final application after reshaping of disturbed areas has been completed;
- Measures to control erosion, landslides and water runoff;
- Reshaping the area disturbed, application of the topsoil and revegetation of disturbed areas, where reasonably practicable...
- Operations ...are subject to monitoring by the authorized officer to ensure that operators are conducting operations in a manner which will not cause undue or unnecessary degradation.
- Failure of the operator to prevent undue or unnecessary degradation or to complete reclamation to the standards described in this subpart (43 CFR 3809.1-3) may cause the

operator to be subject to a notice of noncompliance as described in 43 CFR 3809.3-2 of this title.

**1.3.4 State Surface Mining Act.** The Surface Mining and Reclamation Act of 1975 (SMARA) is a California law which addresses mining reclamation. The SMARA statutes also apply to mineral exploration. Mineral exploration operations that disturb more than one acre of surface land, or that excavate more than 1000 cubic yards at a single location, must obtain a SMARA reclamation plan. The Inyo County Planning Department is the lead agency for SMARA enforcement at the Project.

**1.3.5 Water Quality Protection.** The federal Clean Water Act (CWA) delegates to the states the authority to regulate certain activities that may affect waters of the United States. The Project would require an industrial storm water permit under Section 402 of the CWA. California implements its delegated authority under the CWA through the State Water Resources Control Board and several Regional Water Quality Control Boards. The Lahontan Regional Water Quality Control Board administers the Project area.

**1.3.6 Air Quality Protection.** The federal Clean Air Act (CAA) delegates to the states the authority to regulate certain activities that may affect air quality. The Project does not require an air quality permit. California implements its delegated authority under the CAA through several Air Pollution Control Districts. Management and enforcement of the air quality standards in the Project area are under the jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD). Great Basin rules 400, 401, and 402 (Ringlemann Chart, Fugitive Dust, and Nuisance) would all apply to the project. The project would be subject to inspection by GBUAPCD at any time.

**1.3.7 Protection of Wildlife.** A number of public laws, acts and executive orders provide direction to the BLM in managing wildlife resources. Some of these are: National Environmental Policy Act of 1969; Endangered Species Act of 1973 (as amended); Sikes Act; Executive Order No. 11514, Protection and Enhancement of Environmental Quality; Federal Land Policy and Management Act of 1976. The BLM has translated applicable parts of these laws, acts, and executive orders into policies and guidance, which are contained within the BLM manual system. Manual section 6840 provides direction to the special status species program, with wildlife management being guided by BLM manual section 6500.

The Federal Endangered Species Act of 1973 ("ESA"), and the California Endangered Species Act provide for the identification, listing, protection and recovery of threatened or endangered species of animals and plants. The threatened desert tortoise is the primary focus of mitigative and protective efforts in the Mojave Desert area. The project is not within designated desert tortoise habitat, thus no biological opinion is needed.

**1.3.8 The California Desert Protection Act.** Among other things, the California Desert Protection Act (CDPA) established the Mojave National Preserve, designated Death Valley as a National Park, and set aside millions of acres of wilderness. It also addressed matters that bear directly on the Project. The pertinent sections are:

> "NO BUFFER ZONES. – The Congress does not intend for the designation of wilderness areas in section 102 of this title to lead to the creation of protective perimeters or buffer zones around any such wilderness area. The fact that nonwilderness activities or uses can be seen or heard from areas within a wilderness area shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area." (CDPA section 103 (d))
>
> "SUITABILITY REPORT. The Secretary [of the Interior] is required, ten years after the date of enactment of the Act, to report to Congress on current and planned exploration, development or mining activities on, and suitability for future wilderness designation of, the lands as generally depicted on maps entitled "Surprise Canyon Wilderness – Proposed", "Middle Park Canyon Wilderness – Proposed", and "Death Valley National Park Boundary and Wilderness 15", dated September 1991 and a map entitled "Manly Peak Wilderness – Proposed", dated October 1991." (CDPA section 106) (NOTE: The Project area is found on the Manly Peak Wilderness Map referenced in this section.)

Senator Feinstein explained congressional intent of Section 106 as follows:

> "Mr. President, on April 13 the Senate passed S. 21, the California Desert Protection Act. I would like to take this opportunity to explain section 106 of the bill. …[C]ertain wilderness areas in the southern Panamint Range that would have been designated by the bill were eliminated – Middle Park Canyon Wilderness – or reduced in size – Manly Peak, Surprise Canyon, and Slate Range Wilderness Areas, in order to allow mineral exploration and development on the affected lands."
>
> "The principal beneficiary of this reduction in wilderness designation is a proposed gold mine – the Briggs Mine – that is now in the final stages of permitting. The mine is located in a cherry-stemmed intrusion in the excluded lands. …S. 21 removes the excluded lands from wilderness study area status and thereby will allow the Briggs Mine operators to mine the Briggs deposit more efficiently and to explore and possibly develop their larger claim block on the excluded lands. Other companies may also become active in exploring these excluded lands.
>
> "In approving the California Desert bill in 1991, the House Committee recognized, however, that if these excluded lands are not developed for their minerals, a future Congress may want to consider again whether they should be designated as wilderness. To that end, the committee included a provision to require the Secretary of Interior to report to Congress in 10 years on the status of mineral exploration and development or mining activities in these areas and on their suitability for future designation as wilderness. I agreed with this provision and included it in S. 21 as section 106.

> "The reporting requirement of section 106 does not bind the Secretary or a future Congress to make any particular decision as to the subsequent management of the excluded lands after the submission of the report. However, section 106 clearly contemplates that the Secretary will manage the excluded lands prior to the reporting date so as to facilitate mineral exploration and development." (Congressional Record, May 5, 1994)

In 1991, the 3,000 acre Project area currently proposed for exploration by Briggs comprised part of the lands being proposed for wilderness designation by proponents of the California Desert Protection Act. These lands were later dropped (deleted) from the final wilderness areas approved by Congress in the CDPA. These deleted lands were not retained as Wilderness Study Areas (WSAs) but were released, either as Class L or M multiple use lands.

The CDPA and Senator Feinstein's statement make it clear that the CDPA specifically accommodated mineral exploration and development on the Project area while reserving the right to reconsider, pending the outcome of such activities, whether these deleted lands should be reallocated and designated for wilderness in ten years time.

**1.3.9 Plant Protection.** It is BLM's policy to carry out management, consistent with the principals of multiple use, for the conservation of Special Status Plant Species and their habitats. BLM will work to ensure that actions authorized, funded, or carried out do not contribute to the need to list any species as threatened or endangered.

**1.3.10 Protection of Cultural Resources.** Several laws require consideration of cultural resources and Native American concerns. The National Historic Preservation Act (as amended) requires that federal agencies consider the effects of all actions on cultural resources and that effects to significant cultural resources be mitigated or avoided. It also requires that federal agencies consult with the relevant State Historic Preservation Officer (SHPO) on these matters. The requirements of the National Historic Preservation Act are currently dealt with under a protocol agreement between BLM and the California SHPO. The National Historic Preservation Act also has provisions for consulting with Native Americans on the effects of Proposed Actions to archaeological sites or areas of traditional use or concern. The American Indian Religious Freedom Act requires that agencies obtain and consider the views of Native Americans during decision-making. The Religious Freedom Restoration Act requires that agencies ensure that their decisions do not burden the free exercise of religion by Native Americans, especially in terms of access, use, or ritual practice. FLPMA and NEPA also have provisions for providing tribal officials with opportunity to comment on planning and NEPA documents.

**1.3.11 Streambed Protection.** Section 1603 of the California Fish and Game code requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify the Department of Fish and Game before beginning the project. The Project Proponent would need to provide notice, under section 1603, to the California Department of Fish and Game, before commencing the project.

## 1.4 Related Activities

The Cecil R. – Jackson Exploration Plan of Operations was submitted by CR Briggs Corporation (CR Briggs). CR Briggs operates the Briggs Mine located approximately two miles south of the current application area. The Briggs Mine, and the exploration considered herein, are located within a block of claims held by CR Briggs on the western flank of the Panamint Range. BLM and other agencies granted approvals to the Briggs mine in 1995 following preparation of a joint federal-state EIS/EIR. BLM and other agencies have approved exploration permits for CR Briggs both inside and outside the permit area of the Briggs mine as well as exploration for others on mining claims in nearby and adjacent areas not held by CR Briggs. These exploration permits were granted after preparation of Environmental Assessments. In all, BLM has prepared one EIS for mining activity and six EAs for mining exploration on the western flank of the Panamint Range in the past 10 years. The work from these prior studies, and follow-up monitoring of the mining and exploration operations, comprises an extensive body of environmental knowledge on the Panamint Range and the effects of mining and mining exploration on the area. The information from those studies was used to support analysis of the Proposed Project.

In the Panamint Range, CR Briggs currently holds a mining authorization for the Briggs Mine that authorizes up to 577 acres of disturbance (including 50 acres of disturbance authorized for clay extraction in Panamint dry lake), and an exploration permit (the North Briggs – Gold Tooth Permit) that authorizes up to 31 acres of disturbance within the Briggs Mine permit boundary. As proposed, adding the Cecil R – Jackson Plan of Operations would expand the Project Proponent's authorized disturbance in the Panamint Range and valley to a total of 708 acres on or near a claim block that was recently reduced to about 6,000 acres. The proposed disturbance represents about 1.6 percent of the claim block, which, when added to the existing approved disturbance would bring the total approved disturbance to about 11.8 percent of the claim block area. If the Proposed Action were approved, the 6,000 acre claim block would include both the 2,000 acre Briggs Mine permit area and the 3,000 acre exploration permit area, resulting in 83 percent of the claim block being covered under permit to Briggs.

# 2. Proposed Action and Alternatives

NEPA requires that the EA analyze the Proposed Action and other alternatives to provide a comparison among feasible alternatives, "thus sharply defining the issues and providing a clear basis for choice among the options by the decisionmaker and the public." (40CFR 1502.14) This EA analyzes the impacts of two action alternatives: the Proposed Action as described in the CR Briggs permit application, and an alternative allowing helicopter supported drilling activities. The EA also analyzes the alternative of No Action. The No Action alternative is the alternative of not approving the exploration permit.

## 2.1 Proposed Action

CR Briggs Corporation has applied to the BLM for a permit to conduct exploration activities on the west flank of the southern Panamint Range. The proposed exploration would affect up to 100 acres within a proposed area of approximately 3000 acres. The activity is proposed to take place in portions of sections 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, and 36, T22S, R 44E, Mount Diablo Meridian Inyo County, CA. Figure 1, General Location Map shows the location of the proposed action.

Exploration drilling requires access for drill rigs (roads) and places for the drill rigs to work (drill pads). A drill pad is a more or less level spot in a drill road. The drill rig sits on the drill pad which is a relatively flat area about 20 ft wide by 50 to 60 ft long. It would drill a 2 inch to 12 inch diameter hole (most holes would be 4 inches to 8 inches in diameter), retrieving pieces of rock as it drills. Drill holes would be 200 to 1,000 ft deep. Sometimes the rock is retrieved as core, other times it is retrieved as drill cuttings. When exploration drilling is complete, the hole is refilled and sealed, and the drill road reclaimed.

Drilling equipment for each drill rig would consist of a drill rig, a service rig, and two to three pickup trucks. The service rig and drill rig would both be mounted on the same style chassis. The chassis is a heavy-duty, twin-axle, articulated, all wheel drive, off road carrier. The chassis is approximately 30 ft long and 10 feet wide. It is supported by four large, high flotation tires that minimize ground pressure and disturbance.

The drill rig carrier transports the drill mast, engine and drilling equipment. It has outriggers to level and steady the rig while in operation. The service rig transports the drill steel, water, mud (if needed) and other supplies needed by the drill rig.

The drilling crew consists of three drillers and one or two geologists for each drill rig. One or two drill rigs are expected. Each drill hole is expected to take two days to drill.

The Proposed Action is the project proposal submitted by CR Briggs. Under this alternative, BLM would approve the permit application as submitted by the company, subject to mitigation measures. The following describes where CR Briggs proposes to drill, how they propose to construct their roads and pads, and how they propose to reclaim their roads and pads.

CR Briggs is proposing to conduct exploration drilling to investigate the mineral resources on a portion of the western flank of the Panamint Range. Previous exploration has identified three principal target areas; the Cecil R area, the Jackson area, and the Nostradamus area. All of these areas have been explored in the past and are known to contain gold bearing rocks, although there is not enough information to determine whether or not the areas contain enough ore grade material to mine economically. Figure 2, Project Area shows the location of the exploration area in the Panamint Mountains.

CR Briggs would avoid critical natural resources during the course of operations, including identified archaeological sites and BLM sensitive (wildlife) species. No drilling will be conducted within 500 feet of any site known to be inhabited by the Townsend's big-eared bat during the habitation season.

CR Briggs has proposed an exploration area of approximately 3000 acres. Within this 3000 acre area, CR Briggs proposes to disturb up to 100 acres by exploration drilling. CR Briggs proposes to conduct the exploration using techniques specific to the terrain encountered. On the pediment and alluvial fan slopes, the company proposes to use buggy mounted rigs to directly access the drill sites. Buggy mounted rigs are drill rigs mounted on a chassis having large, low-pressure tires. The chassis is designed to carry the rig over rough terrain minimizing the need for road building. For areas that can be accessed by buggy rig, road construction, if needed, would consist of removing or reshaping occasional obstacles.

CR Briggs will obtain all pertinent state, local and federal environmental permits prior to beginning operations, and abide by the requirements of these permits during the course of operations, as a condition of approval. This includes abiding by any fugitive dust emission requirements (rule 401) of the Great Basin Unified Air Pollution Control District; State requirements of the California Surface Mining and Reclamation Act; requirements of any Conditional Use Permit issued by the County of Inyo; any industrial storm water requirements of the Lahontan Regional Water Quality Control Board, and; any 1603 Stream Bed Alteration Permit issued by the California Department of Fish and Game.

Some portions of the Panamint Range are too inaccessible for buggy rigs to travel unassisted. In these areas, traditional drill access roads would be constructed. Roads would be constructed using bulldozers to side cast roads to a minimum safe width for travel (approximately 12 ft). If necessary, blasting may be used to assist in road construction. Construction will be done so as to minimize erosion on newly constructed roads, such as; sloping roads to the fill side so as to shed water, and construction of water bars (or other measures) at intervals to move water off the road.

Access to the Cecil R area would be over several existing roads that connect to Wingate road south of Ballarat, CA. Over 7000 feet of road already exists in the Cecil R area as shown on Figure 3, Cecil R Phase 1 Map. These roads would be used whenever practicable, reducing the need for additional road building. Access to the Nostradamas area would require new road construction, beginning at a point north of the Cecil R Mine workings. The Jackson area is very steep and would require new road construction. Jackson area roads are shown on Figure 4,

Jackson Phase 1 Map. The company is considering the possibility of helicopter access to the higher portions of the Nostradamas area.

Actual drill road locations would be determined in the field and would take into account drill hole location, terrain, and geology. The phase maps (Figure 3 and Figure 4) show actual drill roads installed during previous exploration efforts within the Project area. Drill road installation for the Proposed Project would be expected to have characteristics similar to the existing drill road network, although expanded to accommodate additional drill sites.

Reclamation of all disturbed lands would take place after the exploration program. Drill holes that do not intercept ground water would be refilled with drill cuttings, and the top three feet of each hole would be sealed with cement grout (holes are commonly capped with cement for public safety). Drill holes that intercept ground water would be sealed with bentonite from the bottom to a level 50 feet above the static water level in the hole. Once the bentonite seal is placed, the hole would be refilled with drill cuttings and the top three feet sealed with cement grout. The BLM would be provided with pertinent ground water data, if any is encountered.

Reclamation on the affected area(s) will be initiated no later than 18 months following the completion of exploration. Should CR Briggs submit a plan of operations for the development of a mine before the end of that time, the reclamation of any affected drill sites will be treated as part of that plan.

Drill roads and pads in steep areas would be reclaimed by using a track hoe. From a position on the road surface, the track hoe would reach down the hill to the retrieve side cast material. The material would be placed on the road surface where it would be contoured against the cut slope to blend with the existing terrain. Pre-existing drainages would be re-established; erosion controls would be re-installed on old roads in their original location. Over-land drill routes would be reclaimed by ripping to relieve compaction. All reclaimed areas would be left in a loose, roughened condition, and would be reseeded with vegetation endemic to the area as prescribed by BLM. Seeding would be done just prior to the onset of winter rains to maximize seed germination and avoid working on wet, muddy soils.

Some of the drill roads that the Project would use are existing roads that are not subject to any reclamation plan. To the extent that the Project Proponent uses these existing drill roads, these roads would be subject to review by the BLM for possible closure under the reclamation requirements of this plan, possibly resulting in a reduction in total disturbance.

The drilling program would proceed in four phases, with two initial targets, Cecil R and Jackson. The following description is dependent on many variables and subject to changes in timing, phasing, and emphasis. Phases 1, 2, and 3 are roughly the same for each of the target areas, although much more is currently known about the Cecil R area. Phase 4 would be a program entirely outside the Cecil R and Jackson areas to test other geologic targets.

Phase CR1 would test mineralization in the Cecil R area. It would consist of drilling approximately 25 holes. Currently planned holes are shown on Figure 3, Cecil R Phase 1 Map.

The number and location of holes could vary depending on success in discovering mineralization. The drilling would take place on the upper slopes of the alluvial fan and would be completed using buggy mounted drill rigs. This phase would incorporate many existing drill roads, with minimal new road construction needed. Depending on phase 1 results, an additional phase (CR2) would be initiated to test mineralization north and south of the phase CR1 area. Phase CR2 would require the building of additional drill accesses outside the phase CR1 area. The number of holes in this phase is unknown and would depend on continued success. Phase CR3 of the drilling program would be entirely dependent on the success of phase CR2 and would include step out drilling and infill drilling to further define the mineralization. The extent of road construction would be dependent on the extent of infill and step-out drilling.

Phase J1 of the drilling program will take place in the Jackson area. The Jackson target is located on the steep lower slopes of the Panamint Range and would require road building. Phase J1 planned holes are shown on Figure 4, Jackson Phase 1 Map. This phase would test a strong, 1,500 ft long gold anomaly extending northward from an existing drill hole. This phase would consist of an initial 12 hole program. Hole locations have not been determined. The number of holes could vary. If phase J1 is successful, phase J2 would be initiated. This phase would test down dip mineralization to the west of the phase J1 area, and and also test a northern extension of the mineralization where the bedrock is covered by alluvium. Phase J3 would be entirely dependent on the success of phase J2 and would include step out drilling and infill drilling to further define mineralization.

Phase 4 of the program could include drilling in other target areas, away from the two immediate targets. This phase currently exists as a concept only, but would comply with the conditions of the plan of operations.

Each phase described above could consist of several stages of drilling as the Project Proponent develops and analyzes drilling information.

### 2.2 Helicopter Supported Drilling

Under this alternative, BLM would approve an exploration plan of operations that would allow only helicopter supported drilling and drilling from existing roads. A helicopter staging area, located within the Cecil R – Jackson claim block would be constructed and reclaimed, but no new roads would be constructed. The helicopter staging area would be located near Wingate road and would be a cleared and leveled area of about 200 ft by 200 ft. Each drill pad would occupy an area of approximately 20 ft by 20 ft.

Under this scenario the Proponent would identify drilling locations. The BLM would review each drilling site and determine if it is accessible by either an existing road or on slopes amenable to cross-country travel by buggy rig requiring no new road construction. Any drill site not meeting these criteria would be accessed by helicopter. All drill sites would be reclaimed as soon after drilling as possible. The reclamation could be delayed if the Project Proponent could demonstrate to the BLM that sufficient mineralization is found to warrant mining development. Should that be the case, each affected drill site would be addressed under the reclamation plan for the mine.

Helicopter drilling programs are limited by the carrying capacity of the helicopter. The drill rig would be a much smaller rig than used under the Project Proposal, and would be correspondingly slower to complete each hole. Drilling would be done using a small core drill. Each hole would require about 12 days to complete, and about 50 round trips by helicopter from the staging area to the drill pad. Trips would be required to mobilize and demobilize the drill rig, mobilize and demobilize the crew each day, bring in water and other drilling supplies, and moving core from the site to the staging area.

Helicopter supported drilling is a very expensive technique used by the mining industry in areas of extremely rugged terrain where other alternatives are not feasible. It is not normally considered when other techniques are available.

### 2.3 No Action Alternative

The No Action Alternative would mean that the BLM would deny the proposed Plan of Operation. Under this alternative there would be no new disturbance by the applicant, and no reclamation by the applicant.

### 2.4 Alternatives Considered but Not Analyzed in Detail

An alternative would be to grant only a portion of the requested drill disturbance, say 50 acres instead of the 100 acres requested by the Project Proponent, or approving disturbance in only a portion of the requested exploration area. These alternatives were eliminated from consideration for three reasons: (1) They would not meet the purpose and need of the project proposal, (2) They would change the numerical tally of disturbance and other environmental effects, but would not eliminate any single type of impact, and (3) They would not reduce any project impact below any known regulatory threshold; (e.g. BLM considers some actions to be "categorically exempt" from NEPA review due to their impacts being so small as to not be noticeable; i.e., de minimis impacts. Some activities proposed to BLM are near the de minimis threshold for some impacts and can be brought below the threshold by minor alteration in their design. Such is not the case here). There are no impacts of the Project that would exceed any regulatory threshold due solely to the proposed acreage.

# 3. Affected Resources

The Project is located in the Mojave Desert region of California. Figure 2, Proposed Project Site shows the project site on the west slope of the Panamint Range. Environmental resources in the Project area are described in the California Desert Conservation Area Plan EIS (1980) and in the Briggs Project Final EIS/EIR (May 1995). Those documents are incorporated herein by reference. In addition, several site specific studies have been completed on the Project area. Those studies are discussed in the appropriate sections.

BLM has considered the following critical environmental elements and finds that they are not affected by the Project, and are therefore excluded from this analysis: (1) Prime or Unique Farmlands, (2) Floodplains, (3) Forestry, (4) Fire Management Objectives, (5) Paleontology, (6) Range, (7) Hazardous or solid wastes, (8) Wetlands and Riparian, and (9) Wild and Scenic Rivers.

## 3.1 Air Quality

The Project lies in the Panamint Valley, a portion of the area administered by the Great Basin Unified Air Pollution Control District ("GBUAPCD"). Air quality in the area is generally good. The area is classified as being in attainment, or unclassified due to lack of data, for all national ambient air quality standards ("NAAQS"). The area is classified as being in attainment, or unclassified due to lack of data, for all California Ambient Air Quality Standards (CAAQS) except PM10 (fine dust). The area is classified as non-attainment for PM10 CAAQS. For contextual reference, Lake County is the only county in the state classified as being in attainment for state PM10 standards.

Fine dust is the principal air pollutant in the area. Sources of PM10 are wind erosion of crustal material and dust from vehicular traffic on roads and other human activity, including the Briggs mine. In certain areas within the Project boundary, the soil has been disturbed by prior mineral exploration efforts and has not been reclaimed. Without reclamation, these areas contribute to dust emissions in the area by wind erosion. They may also attract some off road vehicle use that also creates dust by traveling over the disturbed surface. The Project Proponent may choose to use some of these disturbed areas, limiting new disturbance.

PM10 data has been collected in the Panamint Valley around the Briggs Project. Baseline data was collected to support the Briggs Project EIS/EIR (BLM et. al. 1995), and operational data has been collected at monitoring stations north and south of the Briggs Mine since December 1995. The data shows that the air quality classifications for NAAQS and CAAQS are accurate; large wind storms can and do cause exceedances of the 24 hour CAAQS in the area.

## 3.2 Soils

Soils in the Project area are generally coarse and rocky. They are derived from either the bedrock substrate or alluvial outwash materials and are subject to wind scouring during portions of each year. Soil descriptions are found in JBR (1991). Limited discussions are included as part of the vegetation community descriptions found in the vegetation survey information (CCA

et al 1998, and CCA 2001). In certain areas within the Project boundary, the soil has been disturbed by prior mineral exploration efforts and has not been reclaimed. Without reclamation, these areas are subject to soil loss from wind and water erosion. The Project Proponent may choose to use some of these disturbed areas, limiting new surface disturbance.

### 3.3 Vegetation

Vegetation is described in detail in site specific survey documents (CCA et al 1998, CCA 2001 and JBR 1991). One of those studies (CCA et. al., 1998) is a general study and predictive effort designed to narrow down the possible habitat areas for species of special concern in and around the project area. This study is available for review at the BLM Ridgecrest Field Office. The other study (CCA 2001) is a focused study of plant species of special concern in the project area and is found in Appendix 1, Vegetation Information.

In certain areas within the Project boundary, the vegetation has been disturbed by prior mineral exploration and not reclaimed. Without reclamation, these areas have been slow to revegetate. The Project Proponent may choose to use some of these disturbed areas, limiting new surface disturbance.

**3.3.1 General.** The Project area includes a single major vegetation community, the Mojave Creosote Brush Scrub type. This community is subdivided into five subtypes based on terrain, the subtypes are: (1) bajada, (2) wash, (3) sandy gravelly slopes, (4) mountain slope thin soils and (5) mountain slope deep soils. For mapping purposes, rock outcrops, which are devoid of vegetation, are also considered. Surveys for ground cover, species composition, and woody plant density were conducted in each of the five vegetation sub types.

The survey showed 119 species present from 33 families: 61 annual forbs, five annual grasses, 14 perennial forbs, three perennial grasses, 29 shrubs, and seven sub-shrubs. Of the 119 species observed, only 23 were encountered during the quantitative surveys, indicating that the vegetation communities are dominated by a relatively small portion of the total species count. The other species occur only occasionally. Vegetation cover averages 10 percent over the area, and woody plant density averages 1090 stems per acre.

**3.3.2 Special Status Species.** The study for sensitive plant species included all plants that could occur in the area that are listed under any of the following: (1) the federal list of threatened or endangered species, (2) the list of federal candidate species (3) the state list of rare, threatened or endangered species, (4) the list of state proposed species, (5) BLM special status species list, (6) California Natural Diversity Data Base special plant list, and (7) the California Native Plant Society inventory of rare and endangered plants of California. From these lists, 25 special status plants were found to have some potential to occur in the area. None of the 25 special status plant species were observed in the Project area (CCA, 2001).

### 3.4 Surface Water

There are no perennial surface water sources in the Project area. Surface water is limited to sheet flow and concentrated runoff from rainfall events. Due to the limited vegetation cover and coarse nature of area soils, runoff normally contains high levels of sediment. Much of the

surface has been shaped by high-energy, flowing water, and its ability to move soils, either through erosion or sedimentation. In certain areas within the Project boundary, the ground surface has been disturbed by prior mineral exploration efforts and has not been reclaimed. These unreclaimed areas contribute to increased erosion in the area. The Project Proponent may choose to use some of these disturbed areas, limiting new surface disturbance.

### 3.5 Ground Water

Ground water in the area can be grouped in to two classes, the saline waters found in the valley sediments, and the upland waters found in the bedrock of the Panamint Range. A conceptual ground water model is found in BLM (1995).

Saline waters in the valley are relatively static, with a surface elevation of approximately 1040 ft. This elevation varies somewhat across the southern Panamint Valley, but not much, because it is largely controlled by evaporation from the playa, which is relatively flat.

Upland water tends to be fresher than the valley waters and is found in cracks and fissures in the bedrock. Depth to water in the bedrock is unknown.

### 3.6 Wildlife Habitat

The area supports a diversity of wildlife species, due to the large elevation difference on the western face of the Panamint Range. However, wildlife population densities are low due to the limited availability of water and food sources, common in a desert environment. The area is not designated habitat for Mojave Desert tortoise, nor is it known habitat for Mojave ground squirrel. Tortoise sign has been seen in the Panamint Valley about 8 miles south of the Project (where a tortoise was recorded crossing the road in the vicinity of Coyote Canyon as well as another individual up in the canyon). The nearest Mojave ground squirrel sightings are approximately 10 miles southwest in the Searles Valley, and 15 miles north at Panamint Springs.

Mines in the area support colonies of Townsend's big-eared bat. Ongoing monitoring by CR Briggs confirmed the existence of a colony of Townsend's big-eared bats using the Cecil R Mine during the 2001 maternity season.

The Project and surrounding area could host several raptor species, but none have been recorded as nesting. The following species could use the area for foraging while migrating through the area: ferruginous hawk, Golden eagle, northern harrier, sharp-shinned hawk, Coopers hawk, and prairie falcon. Of these species, only the ferruginous hawk has been sighted in the area.

The Project area provides habitat for Nelson's bighorn sheep and feral burros.

In certain areas within the Project boundary, the ground surface has been disturbed by prior mineral exploration and not reclaimed. Without reclamation, these areas have been slow to revegetate, reducing forage for some animals. The Project Proponent may choose to use some of these disturbed areas, limiting new surface disturbance.

## 3.7 Animals

Animals in the area have been studied extensively (BLM et al, 1995 and JBR, 1991). The studies have addressed special interest species as well as common species. Two species of concern reside in the area, the Nelson's bighorn sheep and the Townsend's big-eared bat. In addition, feral burros are found in the area.

**3.7.1 Bighorn Sheep.** Nelson's bighorn sheep are known to use the area. A small number of ewes do not wander far from Redlands Spring (a spring about ½ mile east of the existing Briggs Mine pit). These ewes use the lower western slopes of the Panamint range during the spring. BLM, Death Valley National Park, California Department of Fish and Game, and CR Briggs sponsored a three-year study of the effects of the Briggs Mine on bighorn sheep. The study (not released) showed no significant impact from the mining operation.

**3.7.2 Bats.** The mine workings at the historic Cecil R mine have been monitored for bats since 1989. Monitoring has included ten visits to the site by wildlife biologists, the most recent being in April of 2002. Townsend's big-eared bats, a CDF&G Species of Special Concern and a BLM Sensitive Species, use the old mine workings. Single males appear to use the northern adits and southern prospects; the central complex is used as a maternity roost. The maternity season begins in May and extends through August. Animal counts ranged from 2 to 20 animals observed per visit over the monitoring history (2002 data not available).

**3.7.3 Burros.** Feral burros roam the desert, including the Project area. BLM is seeking to capture and remove burros from the Panamint Range due to their competition with other species, and to coordinate management of this species with Death Valley National Park.

## 3.8 Cultural Resources

A site specific Class III cultural resources inventory has been completed (Schaefer and O'Neill, 2001) and is included in Appendix 2, Cultural Resource Information. The inventory resulted in location of 5 sites representing historic mining activity. All five sites have been determined to be ineligible for listing in the National Register of Historic Places under terms of the 1997 Protocol Agreement between BLM and the State Office of Historic Preservation.

The report suggests that prehistoric resources were not located during the inventory because of the stark landscape.

> "Although Prehistoric Native Americans undoubtedly accessed the area for some resources, it may never have been a populated or heavily used location. The project area lacks several attributes which appear to make a location useful. Notably, the area lacks vegetation (and the ubiquitous desert holly, *Atriplex hymenelytra* indicates that water is absent, even by Great Basin standards), contains steep slopes and difficult terrain, and lacks routes to springs in the upper elevations of the Panamint Range" (Schaefer and O'Neil 2001:28).

### 3.9 Native American Values

The Project site is located in the Panamint Mountains, an area that the Timbisha Shoshone Tribe consider to be part of their traditional homeland. Detailed information on the Timbisha Shoshone Tribe can be found in NPS (2001).

The Timbisha Shoshone Tribe of Death Valley has consistently expressed serious objections to mining in the Panamint Mountains generally and to the CR Briggs operation specifically since consideration of the plan of operations for the current mine. Therefore, BLM requested that CR Briggs retain an ethnographer to work with the tribe to provide BLM with all information the tribe feels BLM should have in making a decision on the current proposal. In addition to meeting with tribal members and staff, BLM staff, and CR Briggs staff, the ethnographer searched available literature sources for existing ethno-historic information on the project area. This report (Baksh 2002), included in Appendix 2, Cultural Resource Information, concluded that, "the ethnographic literature dating back to the early 1800s places the proposed project site within the overall Panamint Shoshone territory." As summarized by Fowler, Dufort, and Rusco, today's Timbisha Shoshone Tribe is "the primary descendent group representing the whole of what has been called in the anthropological literature "Panamint Shoshone" territory" (1995:2)(Baksh 2002:5). Kawaiisu were also documented in the southern Panamint Valley, probably on a seasonal or occasional basis. The project area falls within the Timbisha Tribal Homeland as identified in the Timbisha Shoshone Homeland Legislative Environmental Impact Statement and within a few miles of the Timbisha Natural and Cultural Preservation Area as identified in the same document (NPS 2001). Several ethnographers have identified Shoshone names for the Panamint Mountains (Dayler 1989:41; Grosscup 1977:143, citing Merriam's notes; Steward 1938:95; and Fowler, Dufort, and Rusco 1995:99). Specific locations near the project area were identified but no specific location or resources were identified within the project area by Shoshone consultants.

> "Although no specific cultural resources are located within the project site, the Timbisha feel that the proposed project itself is located on an extremely important cultural resource, the Panamint Mountains. They are deeply concerned with the physical devastation of the Panamint Mountains which they believe to be a sacred mountain range… the Timbisha Shoshone also described concerns that the proposed project would result in significant visual aesthetic impacts… Finally, it should be noted that the Timbisha Shoshone could not think of any appropriate mitigation that could be developed" (Baksh 2002:10).

### 3.10 Visual Resources

BLM uses characteristics of color, line and texture to evaluate visual quality. The Project area is visible from distal views on Trona-Wildrose Road, and proximal views from Wingate road.

The distal view of the Panamint Range is highly variegated, with hues ranging from light to dark and colors across the spectrum. Incised canyons in the range face add texture to the range. Dominant lines are formed by the flat playa surface and the fault scarp at the base of the range. The proximal view of the Project area is obstructed in some areas by intervening terrain east of Wingate Road. In some places the face of the range in highly visible, in others it is hidden by large fault scarps near the road. From the proximal view, color is more uniform and texture is

dominated by vegetation and rock outcrop. Lines in this view are formed by alluvial fan slopes and lesser fault scarps.

In certain areas within the Project boundary, the ground surface has been disturbed by prior mineral exploration and not reclaimed. Without reclamation, these areas have been slow to revegetate, and remain as changes in color on the west face of the Panamint Range. The Project Proponent may choose to use some of these disturbed areas, limiting new disturbance.

### 3.11 Wilderness

The Project area is 1.25 miles from the Manly Peak Wilderness to the east and 3 miles from the Surprise Canyon Wilderness to the north. Another wilderness, the Argus Range Wilderness, lies 8.5 miles across the valley to the west.

### 3.12 Outdoor Recreation and Open Space

The vast Mojave desert complex that lies to the east and north of the populated areas of southern California is a recreational outlet for many urbanites who wish to recreate in areas as yet unspoiled by urbanization. The Mojave is also enjoyed by visitors from around the nation and the world. Recreation opportunities abound in the Mojave. The Mojave National Preserve and Death Valley National Park offer millions of acres of outdoor park experience, the numerous wilderness areas offer additional millions of acres available to those who want a more rugged outdoor experience, and the public lands offer yet more millions of acres of a less structured or narrowly defined outdoor experience.

Recreational uses of the project area are dispersed hiking, camping, rock collecting, four wheeling, and investigating old mining camps. Some visitors come to the area knowing their destination, others set the Panamint Valley as a destination in general, and look for opportunities on arrival. Some visitors who come for four wheeling are attracted by the old mining roads in the area, including, possibly, existing exploration drilling disturbance in the Project area.

### 3.13 Social and Economic Values

Population centers in the area are Trona, Ridgecrest, and Inyokern. Social and economic values in the area are dominated by the major local employers. Major employers are the tourist trade (driven by Death Valley National Park), the China Lake Naval Air Weapons Station, and mining activities at Trona, the Briggs Mine, and the Rand Mine. Tourism supports a number of low paying jobs in the gift shop, hospitality and other tourism related support industries. The Naval Air Weapons Station supports a large number of high paying jobs, and brings stability to the community. Mining supports high paying jobs, but has suffered from low commodity prices in recent years which have caused some reductions in work force.

Social groups largely include people associated with the various basic economic drivers of the area, plus the Timbisha Shoshone Indian Tribe. The tribe is centered in Furnace Creek in Death Valley, approximately 100 miles (by road) from the Project site. The project area has been identified as part of the Timbisha traditional homeland.

### 3.14 Night Darkness

The Panamint Valley is a largely uninhabited area with few visible lights. Night lights include lights at the Panamint Springs Resort, the limestone quarry, the radar station, Indian Ranch, and the Briggs Mine.

# 4. Mitigation Measures and Impacts

The following discussion explains the mitigation that would occur for each resource, and then describes the residual impacts of the alternatives after application of that mitigation. Mitigation can come from the applicant's proposal, existing statute or regulation, or stipulations imposed by BLM imposed as a condition of permit issuance. To the extent that mitigation would arise from a permit stipulation, BLM would include that stipulation in any permit it may issue for the described Project. The impact discussion has been grouped to show all direct, and indirect impacts together, with cumulative impacts discussed at the end of the section.

One of the means that the BLM uses to assure completion of required mitigation measures is to require that the Project Proponent post a financial assurance instrument adequate to provide for all required reclamation. The proposed financial assurance amount for the 100 acres of proposed disturbance for the Cecil R – Jackson exploration project is $202,465.00, over $2000 per acre. The financial assurance would be posted as one of the following instruments: (1) an irrevocable letter of credit, (2) a surety bond, (3) cash, or (4) some other acceptable cash equivalent instrument such as a certificate of deposit. The financial assurance instrument would be held by Inyo County under a cooperative agreement between the County and the BLM. The bond amount was initially determined by Inyo County as part of their approval process for the Proposed Project. The BLM has reviewed the bond and concurs that the bond amount is adequate to assure reclamation of the site, and the amount would be acceptable to the BLM in the event that the Project Proposal is approved.

## 4.1 Air Quality

**4.1.1 Mitigation.** The Proposed Action includes compliance with Rule 401 (fugitive dust emissions) enforced by the Great Basin Unified Air Pollution Control District (GBUAPCD). This rule requires that "a person shall take reasonable precautions to prevent visible particulate matter from being airborne, under normal wind conditions…" The rule also contains prescriptive measures to be taken to minimize dust. The BLM would require that the Project be in compliance with GBUAPCD rules.

The Project Proponent has proposed a program of overland drilling that would eliminate the need for some road building. Any access that eliminates road building would reduce fugitive emissions by leaving the desert pavement in place, preventing exposure of fine dust particles to wind erosion.

Reclamation of new disturbances would reduce future dust emissions by revegetating the area as soon as practicable after Project completion. If the Project Proponent uses some of the old drill roads in the area, the BLM may require that some of the old roads used as part of the permitted effort be reclaimed to the same standards proposed for the Project.

**4.1.2 Impacts.** The Proposed Action would cause emission of fine dust (PM10) from traffic and from drilling activities. The emissions would be short term and would cease when Project

activity ceased. It is expected that Project related sources would be small compared to natural and man-made sources in the area.

The helicopter supported drilling alternative would cause emission of PM10 from traffic to and from the helicopter staging area, from the helicopter when it approached and left both the staging area and the drill site, and from drilling activities. The emissions would be short term and would cease when Project activity ceased. The many years of available air quality data from the PM10 monitoring stations located near the Briggs mine support the BLM's conclusion that Project related sources of PM10 would be small compared to natural and man-made sources in the area.

Under the No Action alternative, there would be no short term increase in PM10 emissions in the area.

**4.2 Soils**

**4.2.1 Mitigation.** The BLM would require that the Project Proponent salvage topsoil on any areas to be disturbed for future use in reclaiming the area (see section 1.3.3). Upon completion of the Project, the area would be reclaimed. On steep slope areas, reclamation would include pulling side cast material up to the road surface, replacing topsoil, and revegetating the surface. On flatter portions of the area, where overland travel was used in lieu of road building, reclamation would include ripping of travel surfaces, if needed to relieve compaction.

The action alternatives include reclamation of some of the old drill roads that are used as part of the Project. BLM would determine which roads would be reclaimed. Reclamation of old drill roads would be done to the same standards as roads created for this Project.

**4.2.2 Impacts.** For the Proposed action, on areas of flatter slope, soil disruption would be minimal. Vehicles would travel over the soil surface and may cause some soil compaction, which would be relieved, if needed. In steep slope areas of the Project, reclamation would minimize future erosion of soil by revegetating the area and minimizing water concentration during runoff events.

For the helicopter supported drilling alternative, soil disruption would be limited to the immediate area of drill sites and the helicopter staging area.

Under the No Action alternative, there would be no new disturbance of area soils.

**4.3 Vegetation**

**4.3.1 Mitigation.** The action alternatives include reclamation of the affected area(s). On steep slope areas, reclamation would include pulling side cast material up to the disturbed surface, using that material to recontour the surface, and revegetating the surface. On flatter portions of the area, reclamation would include ripping of compacted surfaces, if needed. The BLM authorized officer would determine the seed mix to be used in reclamation upon inspection of the disturbed areas in the field. The seed mix would include grasses, forbs and shrubs endemic to this specific area. Similarly, the BLM would determine, via a consultation process described in

section 4.12, which roads would be reclaimed. Reclamation of old drill roads would be done to the same standards as roads created for this project.

**4.3.2 Impacts.** The Proposed Action would temporarily remove up to 100 acres of vegetation. Reclamation would reestablish vegetation on the disturbed areas.

The helicopter supported drilling alternative would remove less vegetation than the Proposed Action, but more than the No Action alternative.

The No Action alternative would not remove any additional vegetation, but would also not cause current disturbance to be reclaimed.

**4.4 Surface Water**

**4.4.1 Mitigation.** The Proposed Action includes compliance with the conditions of any industrial storm water permit issued by the Lahontan Regional Water Quality Control Board. BLM would further require that all roads comply with standard road construction techniques to minimize erosion on newly constructed roads. Measures include sloping roads to the fill side to shed water a quickly as possible, and construction of water bars or other measures at specified intervals to move water off the road.

The helicopter supported drilling alternative also includes compliance with the conditions of any industrial storm water permit issued by the Lahontan Regional Water Quality Control Board.

Upon Project completion, surface reshaping and revegetation would return the area to a condition similar to that which existed before the Project.

**4.4.2 Impacts.** Under the Proposed Action, there would be a small near-term increase in sedimentation due to surface disturbance, especially in steep slope areas.

Under the helicopter supported drilling alternative, there would be a small near-term increase in sedimentation due to surface disturbance, especially in steep slope areas. The increase would be less than the increase under the Proposed Action.

Under the No Action alternative water quality would remain as it is today.

**4.5 Ground Water**

**4.5.1 Mitigation.** Under either action alternative, if ground water is encountered during drilling the affected drill holes will be plugged in accordance with BLM and California standards. The BLM would be presented with information on the depth, elevation of water, artesian conditions, and such other data pertinent to the description of ground water resources.

**4.5.2 Impacts.** It is not expected that the Project would encounter ground water. Ground water is not expected to be affected by any alternative.

## 4.6 Wildlife Habitat

**4.6.1 Mitigation.** Upon Project completion, reclamation would begin the process of restoring lost forage habitat. The BLM may require that some old drill roads used as part of the Project operation be reclaimed to the same standards as new roads constructed for the Project.

The BLM would require that the Project Proponent maintain a separation of at least 500 feet between any activity and the Cecil R Mine workings used by the Townsend's big eared bat during the bat's maternity season.

**4.6.2 Impacts.** The Proposed Action would temporarily remove up to 100 acres of foraging habitat for raptors, burros, bighorn sheep, and other species in the area. There would be no habitat reduction for bats. In the long term, reclamation would replace the lost foraging habitat.

The helicopter supported drilling alternative would temporarily remove foraging habitat (an undetermined amount that would be less than the amount removed under the Proposed Action) for raptors, burros, bighorn sheep, and other species in the area. There would be no habitat reduction for bats. In the long term, reclamation would replace the lost foraging habitat.

Under the No Action alternative, there would be no temporary loss of forage habitat.

## 4.7 Animals

**4.7.1 Mitigation.** The BLM would prohibit road building or drilling operations within 500 feet of known bat habitat during the period beginning on the first of April of each year and extending through September of each year. Exploration workers would be prohibited from entering the maternity roost during this same period. Drilling directly into known mine workings would also be prohibited.

All newly disturbed areas would be reclaimed. The BLM may require that the Project Proponent reclaim some old drill roads that are used as part of the Project. Reclamation of old drill roads would be done to the same standards as roads created for this Project.

**4.7.2 Impacts.** Under the Proposed Action, impacts on bighorn sheep and burros would be to reduce available forage until the reclamation returns forage levels to pre-project levels. This impact is expected to be small, as populations of these large species are probably more limited by access to perennial water sources than by limitations in available forage. The animals would also likely avoid using the area while drilling operations were ongoing. These animals can acclimate to human occupation, but are not likely to do so in the short duration of the Project.

Under the helicopter supported drilling alternative, impacts on bighorn sheep and burros would be to reduce available forage until the reclamation returns forage levels to pre-project levels. However, this impact is expected to be small, as populations of these large species are probably more limited by access to perennial water sources than by limitations in available forage. The animals would also likely avoid using the area while drilling operations were ongoing. These animals can acclimate to human occupation, but are not likely to do so in the short duration of the Project. There is a potential for the helicopters to inadvertently harass animals due to the

large amount of helicopter traffic that would be required to support the program. Because the helicopter supported program would last much longer than the Project Proposal, the effects of the helicopter supported drill program on wildlife would extend roughly 6 times longer than the effects of the Project Proposal.

Under the No Action alternative, impacts to bighorn sheep and burros would be minimal. There would be no short term loss of forage.

The impacts to Townsend's big-eared bats that would be most disruptive would be physical destruction of the habitat that could occur if drills or road building equipment were to penetrate the mine workings. This is followed closely by potential abandonment of the maternity roost that could result from disturbance to the animals during the maternity season. The mitigation that BLM would impose on the Project would prevent these two potential impacts under both action alternatives, making impacts to this species not significant.

Under the No Action alternative, there would be no impacts to the bats.

### 4.8 Cultural Resources

There would be no disturbance of known sites that are eligible for listing in the National Register of Historic places under any alternative. There would be no residual impacts under any alternative.

### 4.9 Native American Values

**4.9.1 Mitigation.** The Timbisha Shoshone feel that there are no mitigation measures that will reduce impacts from mining and related activities to the values they ascribe to the Panamint Mountains. Neither have cultural resource managers devised mitigation measures that they feel address intangible values, such as sacredness, ascribed to particular places. No mitigation can lessen impacts to aesthetic values that are ascribed by people who do not wish to see changes of appearance in places that are special to them for traditional reasons. The only measure that would reduce or eliminate such impacts would be to consider other locations for the activity.

**4.9.2 Impacts.** Under all alternatives, there would be impacts to sacred and other traditional values. The Timbisha Shoshone who were consulted feel that a sacred place (the Panamint Mountains) is being desecrated by the ongoing activity at the Briggs Mine and that approval of additional exploration would increase the level of desecration. At least one member complained that greater attention is given to habitat for animal species (such as bats) than to the habitat of the Shoshone people. They feel that their values are not respected and that this reflects an attitude of disrespect toward them. In the years during which agencies have been consulting with Native Americans on such issues, it has become evident that many Native Americans feel genuine and great emotional and psychological pain when permitted actions affect places that are of importance to them.

Under the No Action alternative there would be no increase in the level of impact to these values over what is already occurring as a result of the current mining activities.

## 4.10 Visual Resources

**4.10.1 Mitigation.** Mitigation for visual resource impacts would include reclamation of new disturbances. The BLM may require that the Project Proponent reclaim some old drill roads that are used as part of the Project. Reclamation of old drill roads would be done to the same standards as roads created for this Project.

**4.10.2 Impacts.** Under the Proposed Action, it is likely that the drill roads would not be visible in the distal view. They are relatively small features that would not be highly visible from large distances. In the proximal view, the roads on the steep range face would be visible from vantage points along Wingate Road. Overland drill roads would not be visible, owing to their not disturbing the ground surface. The portions of the roads on the steep face would be lighter in color than surrounding areas, as road construction would disturb the desert varnish found on many of the rock surfaces. It is not expected that the roads would change the texture or add new lines to the view. It is not expected that the new roads would dominate the view. Impacts of new road construction would be reduced but not eliminated by reclamation. Revegetation would help reduce color contrast with surrounding undisturbed areas, but the change in soil color would remain.

Under the helicopter supported drilling alternative, impacts would be much the same as under the proposed action but with a smaller disturbance footprint.

Under the No Action alternative, there would be no new road construction, eliminating this increase in man-made impact.

## 4.11 Wilderness

**4.11.1 Mitigation.** The drill pads, access roads, and any other disturbance associated with the Proposed Action would be reclaimed within 18 months after the completion of drilling.

**4.11.2 Impacts.** The project area is entirely outside the Surprise and Manly Peak Wildernesses and all other wildernesses, and has no direct impact on any wilderness.

There could be an indirect impact to the perception of wilderness values. The Wilderness act of 1964, Section 2(c), defines wilderness as an "undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation," and which "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." It is further defined as a place that has "outstanding opportunities for solitude or a primitive and unconfined type of recreation."

While it is unlikely (due to intervening terrain) that noise from the Proposed Action would be heard inside either of the two adjacent wilderness areas, or that the Project itself would be visible to the unaided eye from within either one of the two adjacent wilderness areas, the Project would dominate the immediate approaches to these wildernesses. It would negatively impact the perception of these wilderness areas' naturalness and remoteness, as well as the wilderness user's sense of solitude and of opportunities for a primitive and unconfined type of recreation. Due to

the greater intervening distance, it is anticipated that the Proposed Action would have little or no impact on the Argus Range Wilderness.

Reclamation is not restoration; the standards are different under the mining laws for reclamation than what is commonly understood to be restoration. The residual impacts of this drilling would be negligible contingent upon successful reclamation of the drill sites to standards approaching that of restoration sites.

Under the helicopter supported drilling alternative, the drilling project would likely not be heard or visible from within the two adjacent wilderness areas due to intervening terrain. Helicopters would be flying within the Cecil R – Jackson exploration area that is being analyzed under this EA, from a staging area, to the proposed drilling sites only. They would not be flying over any wilderness area. The Surprise Canyon Wilderness is 3 miles to the north. The Manly Peak Wilderness is 1.25 miles to the south. At its nearest proximity, the Manly Peak Wilderness is well above the drill sites. While frequent helicopter trips would be visible from the ridgetops (as is the traffic along the Trona-Wildrose Road) and would likely negatively affect the wilderness user's sense of solitude and of the wilderness areas' general sense of naturalness and remoteness, these trips would not be visible at all from the canyon bottoms themselves where most visitors currently seek their wilderness experience. From the standpoint of reducing the overall footprint of the proposed drilling sites on the general approaches to these wilderness areas, therefore, the helicopter supported drilling alternative would actually minimize impacts from the proposed drilling activity on the visitor's general perception of these areas' general naturalness and remoteness, and sense of solitude and of opportunities for a primitive and unconfined type of recreation.

Due to the intervening distances, it is anticipated that the helicopter supported drilling project would have little or no impact on the Argus Range Wilderness.

Reclamation efforts are likely to be more successful and complete within a shorter time frame when dealing with a lesser disturbance from a smaller footprint than with the much greater disturbance resulting from building a network of roads for access to drilling locations. Therefore, it is thought that the residual impacts of the helicopter supported drilling project on the approaches to wilderness would be more negligible following reclamation of the helicopter supported drilling alternative.

### 4.12 Outdoor Recreation and Open Space

**4.12.1 Mitigation.** Once complete, reclamation would focus off road vehicle use to designated routes. The BLM may require that the Project Proponent reclaim some old drill roads that are used as part of the Project. Once it is known which old roads were used in the project, the BLM would determine, from the roads used, which of those old roads would be closed. Selection of old roads for closure would employ a consultation process involving the BLM and interested public. Roads to be closed would not include any main access roads or trunk roads. Reclamation of old drill roads would be done to the same standards as roads created for the Proposed Project.

Night drilling operations would not be allowed.

**4.12.2 Impacts.** During operation of the Proposed Action, people who are prospecting for recreational opportunities in the Panamint Valley could chance upon the area and seek to investigate it, leading to a temporary increase in visitor use. In the long run, project completion would eliminate this impact. Moreover, in the event that the Project Proponent chooses to use some of the old drill roads, those roads may be reclaimed, resulting in a small net loss of recreational opportunity for off road vehicle use in the area.

Impacts of the helicopter supported drilling alternative would be much the same as for the Proposed Action.

Under the No Action alternative, there would be no change in recreational use of the area.

### 4.13 Social and Economic Values

Under either action alternative, fewer than a dozen outside workers would be brought in to the area to work on the project at any one time. These workers would occupy available hotel rooms or camper slots. They would purchase some goods locally. In total, the impact on the local economy would be negligible.

Economic impacts under the No Action alternative, would be much the same as under the Project alternative.

The Timbisha Shoshone tribe lives in a community over 100 road miles from the project. Effects on this community are described under Native American Values.

### 4.14 Night Darkness

**4.14.1 Mitigation**. The BLM would include a stipulation prohibiting drilling after dark, eliminating any night lighting that might otherwise occur.

**4.14.2 Impacts.** There would be no impact to night darkness under any of the alternatives.

### 4.15 Cumulative Effects

Cumulative impacts are the result of all past, present, and reasonably foreseeable future impacts, added together. The cumulative impacts discussion from BLM et. al. (1995) are incorporated by reference.

**4.15.1 Air Quality.** For both action alternatives, if the Project Proponent uses some of the old drill roads in the area, there would be a long term cumulative reduction in dust emissions from the area by reclaiming some of the old roads. It is not expected that the cumulative effects of air emissions in the area would cause an exceedance of the NAAQS, but exceedances of CAAQS could be expected to continue to occur because of local weather patterns.

Under the No Action alternative, there would be no cumulative long term reduction due to reclamation of old drill roads.

**4.15.2 Soils.** For the two action alternatives, if the Project Proponent were to use some of the old drill roads in the area, there would be a long term cumulative reduction in disturbed lands due to the reclamation of the old roads.

Under the No Action alternative, there would be no disturbance of area soils. There would be no reclamation of old drill roads in the area.

**4.15.3 Vegetation.** Under either of the two action alternatives, if the Project Proponent uses some of the old drill roads in the area, there would be a cumulative reduction in disturbed lands as any old drill roads used would be reclaimed, along with any new disturbance, to the same standards proposed for the Project.

The No Action alternative would not remove any additional vegetation, but would also not cause current disturbance to be reclaimed.

**4.15.4 Surface Water.** Under the two action alternatives, if the Project Proponent would use some of the old drill roads in the area and reclaim some of them, the Project would result in a small, temporal cumulative improvement in surface water quality due to reclamation of the old roads.

Under the No Action alternative the small, temporal cumulative improvement in suface water quality that would result from reclamation of old disturbances would not be realized.

**4.15.5 Ground Water.** It is not expected that the Project would encounter ground water. Thus, ground water is not expected to be affected by any alternative.

**4.15.6 Wildlife Habitat.** Under either of the two action alternatives, if the Project Proponent uses some of the old drill roads in the area, there would be a cumulative reduction in disturbed lands as some old drill roads used would be reclaimed, along with any new disturbance, to the same standards proposed for the Project.

The No Action alternative would not remove any additional vegetation, but would also not cause current disturbance to be reclaimed.

**4.15.7 Animals.** There are no expected cumulative effects to animals in the area other than those described under wildlife habitat.

**4.15.8 Cultural Resources.** Panamint Valley contains a large number of prehistoric sites that may be associated with late Pleistocene/Early Holocene (circa 7,000 to 11,000 years ago) shorelines of Panamint Lake. Currently on-going studies of archaeology associated with Pleistocene Searles Lake have dramatically indicated the importance of understanding the Pleistocene/Early Holocene landscape in which the resources exist in any attempt to determine the age of the archaeological resources and to understand the local sequence of events, both natural and cultural, over such a long period of time. Recent changes to the landscape and

environment can have significant impact on our ability to understand these earliest manifestations of human habitation in the California Desert. Some of the resources in Panamint Valley are of a nature generally considered to have been created for religious purposes. An intact landscape can also be important to understanding such resources. Ethnographic information indicates that the landscapes in which religious sites are located are sometimes as important as the sites themselves. With the exception of the current C. R. Briggs mine, the landscape in Panamint Valley and on the adjacent mountain slopes is largely intact, an increasingly uncommon situation. Continued alteration of the west face of the Panamint Mountains, especially the possible future development of a mine, could have a cumulative adverse effect on what may be an important landscape and may also affect our ability to fully understand significant resources within that landscape.

**4.15.9 Native American Values.** The Timbisha Shoshone feel that current mining activities are already affecting the Panamint Mountains, which they have identified as sacred. If the proposed exploration leads to full-scale mining and an expansion of Briggs' operations, these impacts will be greatly increased. Tribal members expressed great concern that this will happen.

**4.15.10 Visual Resources.** Under either of the action alternatives, if the Project Proponent uses some of the old drill roads in the area, there could be a reduction in historic disturbed lands due to reclamation of old drill roads. The reclamation of historic disturbance would offset some of the Project related impacts, but there would still be a cumulative increase in visual impact in the proximal view.

Under the No Action alternative, there would be no new disturbance, eliminating this increase in man-made impact, and there would be no reclamation of old drill roads.

**4.15.11 Wilderness.** There are not expected to be any cumulative impacts to wilderness under any of the alternatives, once reclamation of the site is complete.

**4.15.12 Outdoor Recreation and Open Space.** Under either of the action alternatives, if the Project Proponent chooses to use some of the old drill roads, those roads could be reclaimed, resulting in a small net loss of recreational opportunity for off road vehicle use in the area. Once it is known which old roads were used in the project, the BLM would determine which of those old roads, if any, would be closed. Selection of old roads for closure would employ a consultation process involving the BLM and interested public. Roads to be closed would not include any main access roads or trunk roads. Reclamation of old drill roads would be done to the same standards as roads created for the Proposed Project.

Under the No Action alternative, there would be no change in recreational use of the area.

**4.15.13 Social and Economic Values.** There are not expected to be any measurable cumulative impacts to social or economic values under any of the alternatives.

**4.15.14 Night Darkness.** There would be no cumulative impact to night darkness under any of the alternatives.

**4.15.15 Possible Future Mine Development.** Future mine development is one possible outcome of the Proposed Action. The potential impacts described below would occur only if a mine were developed, an event that would require additional action by the BLM to approve such a mine. This description of possible impacts is not adequate to support any decision on any mine development and the discussion is included for disclosure purposes only. If the Project should result in the location of a mineable ore body, the Project Proponent would be required to file application for a specific mining plan of operations under federal regulations. BLM would, subsequent to such filing, complete an appropriate NEPA review, likely an EIS, that would analyze and disclose any expected impacts of the specifically proposed mine development. Thus, the impacts described below are not a consequence of this action, but rather would be the consequence of a future action that may or may not occur. The proposed action is a necessary precedent to these potential cumulative impacts, but in and of its self would not cause them, and may not lead to them.

The reader should realize that it is not possible to predict even the most rudimentary elements (e.g., size, type, longevity, processing method, location) of a mine that might be developed in the event that the exploration project were successful. Despite this limitation, a description of the effects of one possible outcome are found in the cumulative impact discussion from BLM et. al. (1995). Appendix 3, Cumulative Impacts, provides a copy of the section from BLM et. al. (1995) describing those potential impacts.

Lacking specifics, any attempt at a more detailed analysis of the impacts of a potential future mine development project would be speculative and inappropriate here.

**4.15.16 No Action Alternative.** When considering this alternative, the reader should realize that there are potential consequences of this alternative that are not apparent upon first examination. Specifically, this alternative could potentially result in a claim against the U.S. by the Project Proponent for taking of private property. Should this be the case, then the U.S. Government would need to decide whether the claim had any validity or value under the mining law of 1872. The established procedure for determining the validity of any mining claim is essentially the same as a patent examination. This means collecting the appropriate mineral samples, analyzing the results, and judging whether a commercial mine might reasonably be expected to operate at a profit. The United States would need to initiate a drilling program of its own, similar to the one outlined in the Proposed Project. If this alternative were to develop, the consequences of No Action could be environmental impacts very similar to the impacts of the Proposed Action, compounded by the costs to the U.S. of completing the drilling program and defending against the claim.

The reader should note that the scenario described above is only one of many that could development as a result of the No Action alternative, although it is probably the worst case scenario, and is therefore used for disclosure purposes. It is not possible to predict with any degree of certainty the actual course of events that would follow the No Action Alternative, thus, any attempt at a more detailed analysis of the cumulative impacts of this alternative would be speculative and inappropriate here.

## 5. Persons and Agencies Consulted

During the preparation of this EA, the BLM consulted the following:

California Department of Fish and Game
Inyo County
Timbisha Tribe

BLM Preparers:
Glenn Harris, Natural Resource Specialist
Randy Porter, Geologist
Judyth Reed, Archaeologist
Robert Parker, Wildlife Biologist
Martha Dickes, Wilderness Specialist

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